

ABSTRACT

Please add the following abstract:

The invention concerns a process for the preparation of hydrocarbons and the generation of heat involving

- i) introducing a gas comprising carbon monoxide and hydrogen into a first reactor section having catalyst and introducing cooling fluid into this first reactor section;
- ii) allowing a part of the carbon monoxide to react catalytically in the first reactor section to hydrocarbons and water, at least part of the reaction heat being absorbed directly by the cooling-fluid;
- iii) withdrawing from the reactor section a stream consisting of the reaction product containing the hydrocarbons, water, unconverted feed and cooling fluid;
- iv) cooling down at least a part of the withdrawn stream containing cooling fluid to generate heat;
- v) optionally removing water from the withdrawn stream; and,
- vi) repeating at least once steps I-v with the stream obtained in step v in further reactor section(s). The invention further relates to a reactor suitable for carrying out the above process.